can therefore assume that a large portion of the possible working contingencies had received consideration. For comparison, the composition of the correspondingly belonging metals is given, and the analyses are arranged according to the carbon contents of the metals.

One sees that with a fall in the carbon content of the metal, the content of metallic oxides in the slag rises as under :—

•P «0T,t r in Mpfal	Metals contained in Slag.
Per cent. C in Metal. ^ ^ ^^	M u ^ ^^
About 3-75 .1-3 -	^ .
2-7 . 6-0 .	Not given
" 0-4 to O'l • 4'85 to IS'39 .	4'85 to 17'(>

The field in the case of complete decarburisation is very great. If one, however, looks into the individual analyses more closely, one finds that all the works cited exhibit values lying much nearer one another.

The Ural Works, viz. . - -	4-85 and <>•! percent. Fe
The Polish Works, Ex. 7 . . •	-7-1
Talbot process in America, Ex. 18 . .	10-29 ,, „
Steelton Works in America, Ex. 14 . .9*7	,, „
South Russian Works, Ex. 22 . . .	^)(>

The metallic oxide appears therefrom as a constituent of the slag whose amount evidently admits without difficulty of being lowered to at least 10 per cent. Fe. One must further assume that, with an iron content in the slag of the height given, it is at least approximately in equilibrium with the bath of metal, and that at least the cases show that with somewhat higher iron contents, such does no longer permit a specially great action on the metal, since notwithstanding this condition it was possible to produce a good final product.

One can thus for practical purposes regard the state of equilibrium in respect of the slag and reducing agents in the iron as being reached if the content of iron in the slag has been lowered to 10 per cent., corresponding to 13 per cent. FeO . . . (37).

On the grounds already laid down in the discussion on the proportions of manganese oxide in the slag and oxygen in the iron, it appears desirable, for the production of a faultless final product, to have the manganese content of the slag at